

Docket Number: 10007744-1
Application No. 09/932,055
Amendment A

REMARKS/ARGUMENTS

Claims 1 - 26 are in the application, with claims 23-26 being newly added.
Reconsideration is respectfully requested.

Restriction Requirement

Applicant hereby affirms the election of Group I identified in the office action.

Rejections under Section 102 (35 USC § 102(b))

Claims 1, 2, 4 and 5 were rejected as anticipated by Keefe, US Patent No. 5,635,966.
For the following reasons, applicant submits that these claims are patentable over Keefe.

Independent claim 1 has been amended to make it clearer. Specifically, the method defined there includes masking a first portion of a substrate surface with a passivation material (over which material a metal layer is deposited) that defines boundaries on the substrate surface.

Keefe discloses that a "PECVD process is next used to deposit 217 a composite silicon nitride/silicon carbide ($\text{SiN}_x/\text{SiC}_y$) layer 117 to serve as component passivation." (Col. 14, ll. 59-61). Then, the "surface of the structure is masked and etched to create 218 vias for metal interconnects." (Col. 14, ll. 63-64.) It is clear that the passivation layer is deposited to the surface of the device and then portions of the passivation layer are removed, by way of standard photolithographic techniques, to create vias in the passivation layer that was deposited.

Claim 1 recites, amongst other things, that the "passivation material having edges that define boundaries on the substrate surface such that within the boundaries a second surface portion is exposed for etching." In other words, the passivation material in claim 1, already exposes portions of the substrate for etching. This approach is exactly the opposite of the approach provided in Keefe which etches away portions of the passivation layer. Claim 1 is therefore allowable for this reason.

In addition, claim 1 recites "etching the second surface portion" of the substrate after "depositing a metal layer over the passivation material." Keefe does not disclose etching any surface of the substrate after depositing the composite silicon nitride/silicon carbide ($\text{SiN}_x/\text{SiC}_y$) layer 117. Therefore, claim 1 is also allowable for this reason independently.

Claims 2, 4-5, and 21-22 depend from claim 1 and are therefore allowable for at least the same reasons as claim 1.

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The previously objected-to claim 3 has been amended to be in independent form and to include substantially all of the limitations of its base claim, original claim 1. Accordingly, claim 3 is in condition for allowance.

Claims 6 – 10 were also rejected as anticipated by Keefe. In reply, applicant notes that claim 6 has been amended to recite “providing on the substrate surface an oxide layer in a pattern having edges that define boundaries of a surface portion such that within the boundaries the surface portion is exposed for etching, “covering the oxide layer near the edges with passivation material, and “etching the surface portion of the silicon substrate that is exposed for etching.” As noted above with respect to claim 1, Keefe does not teach or suggest such etching portions of a surface that were exposed based upon a deposition pattern and, therefore, claim 6 and the claims depending therefrom are believed to be in condition for allowance.

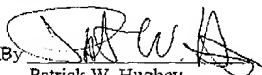
Claims 11 – 14 were also rejected as anticipated by Keefe. In reply, applicant points out that claim 11 calls for the use of a layer as a (“hard”) mask to define trenches in a substrate and then etching the substrate to form the trenches. No such use of a mask or related etching step is contemplated in Keefe. Accordingly claim 11 and the claims depending therefrom are allowable.

New claims 23-26 include recitations that are not found in Keefe or the other cited references, and are therefore allowable.

Conclusion

In view of the foregoing, applicant believes that all of the currently pending claims are in condition for allowance, and an early notification to that effect is respectfully requested. If the Examiner has any questions, she is invited to contact applicant's attorney at the below-listed telephone number.

Respectfully submitted,
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